7. (Amended) Sensor layer according to [any of] Claim[s] 1 [to 6], characterized in that the sensor layer contains bioluminescent substrates, chemiluminescent reagents or fluorescent reagents.

8. (Amended) Sensor layer according to [any of] Claim[s] 1 [to 7], characterized in that the sensor layer consists of a plurality of part-layers, it being possible for the part-layers to differ in thickness and to differ by the type and amount of sensors and/or additions.

9. (Amended) Sensor layer according to [any of] Claim[s] 1 [to 8], characterized in that preferably 2 to 8 ml, particularly preferably 3 to 5 ml, of reporter gene cell suspension are present in 50 ml of sensor layer composition.

10. (Amended) Sensor layer according to [any of] Claim[s] 1 [to 9], characterized in that the reporter gene cell suspension has an optical density of 0.6 to 1.4 at 660 nm.

11. (Amended) Sensor layer according to [any of] Claim[s] 1 [to 10], characterized in that the thickness of the layer is 0.1 to 10 mm, preferably 0.5 to 3 mm, particularly preferably 0.5 to 0.8 mm.

12. (Amended) Method for detecting the biological effect of substances, characterized in that

a.) the sample to be assayed is put onto or into the surface of a carrier, or is already a constituent of a surface to be assayed,

b.) the carrier is covered with a sensor layer from [one of] Claim[s] 1 [to 11] unless the sensor layer itself serves as carrier,

c.) the effect of the substance or substances present in the sample on the sensors in the sensor layer is determined.

14. (Amended) Method according to Claim 12 [or 13], characterized in that on use of a sensor layer which contains cells as sensors the determination of the effect of the

substances present in the sample on the sensors is preceded by an incubation step in which the sensor layer or the carrier covered with the sensor layer is stored in accordance with the requirements of the cell lines employed under defined conditions in relation to temperature, humidity and gas introduction for a preset time.

15. (Amended) Method according to [any of] Claim[s] 12 [to 14], characterized in that the effect of the substance on the sensors consists of location-dependent induction or quenching of the emission of light from bioluminescent or chemiluminescent processes, induction or quenching of the fluorescent emissions and an integral or spectral alteration in the absorption of light.

16. (Amended) Method according to [any of] Claim[s] 12 [to 15], characterized in that the substances in the sample are concentrated by specific or nonspecific adsorption onto suitable carrier materials before they are brought into contact with the sensor layer.

17. (Amended) Method according to [any of] Claim[s] 12 [to 16], characterized in that the sample to be assayed is a mixture of substances which is fractionated by chromatography or electrophoresis or using other analytical or preparative separation techniques before it is brought into contact with the sensor layer.

20. (Amended) Method according to [any of] Claim[s] 12 [to 19], characterized in that the sample to be assayed is a mixture of substances, and the detection of the biological effect of the Individual substances in the mixture of substances is linked to a detection of the structure of the individual substances by the mixture of substances being separated into fractions by chromatography or electrophoresis or with other analytical or preparative separation techniques, and each fraction being investigated by spectroscopy before it is brought into contact with the sensor layer.

22. (Amended) Method according to Claim 20 [or 21], characterized in that the chromatographic separation of the mixture of substances into fractions takes place in a chromatography column, and part of the eluate is continuously applied to various